

**REMARKS**

Claims 1-21 are pending in the above-referenced patent application (this "Application").

No claim was allowed in the Office Action.

Claims 1, 9 and 17 have been canceled from this Application, without prejudice.

Claims 2, 3, 10, 11, 18 and 19 have been amended in this Application.

Claims 22-24 have been added to this Application.

Claims 2-8, 10-16 and 18-24 remain in this Application

Reconsideration of the claims of this Application is respectfully requested.

**35 U.S.C. § 102(e), Anticipation**

In the Office Action, the Examiner rejected Claims 1, 3-9, 11-17 and 19-21 under 35 U.S.C. §102(e) as being anticipated by *Bauer et al.*, namely, United States Patent No. 5,926,816 (hereafter "*Bauer*").

In an effort to expedite prosecution of this Application, the Applicant cancelled Independent Claims 1, 9 and 17, without prejudice, and amended Dependent Claims 2, 10 and 18. Claims 2, 10 and 18 are now independent and include the limitations of their respective base Claims 1, 9 and 17. In so amending Claims 2, 10 and 18, the Applicant has rendered moot the Examiner's rejection of Claims 1, 3-9, 11-17 and 19-21 under 35 U.S.C. 102(e). In so doing, the Applicant makes no admission concerning the merits of the Examiner's now-moot rejection and denies affirmatively any statement or averment of the Examiner that is not specifically addressed in this Amendment.

Finally, new Independent Claims 2, 10 and 18, as now presented, contain only those limitations of originally filed Claims 1, 9 and 17. Therefore, this Amendment does not narrow the scope of Claims 2, 10 and 18 within the meaning of *Festo*. The Applicant reserves the right to file additional claims in this Application through supplemental amendment or otherwise.

**35 U.S.C. § 103, Obviousness**

In the Office Action, the Examiner rejected Claims 2, 10 and 18 (now written in independent form) under 35 U.S.C. §103(a) as being unpatentable over *Bauer*.

In *ex parte* examination of patent applications, the Patent Office bears the burden of establishing a *prima facie* case of obviousness. MPEP § 2142; *In re Fritch*, 972 F.2d 1260, 1262, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention is always upon the Patent Office. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). Only when a *prima facie* case of obviousness is established does the burden shift to the applicant to produce evidence of nonobviousness. MPEP § 2142; *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). If the Patent Office does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Grabiak*, 769 F.2d 729, 733, 226 U.S.P.Q. 870, 873 (Fed. Cir. 1985).

A *prima facie* case of obviousness is established when the teachings of the prior art itself suggest the claimed subject matter to a person of ordinary skill in the art. *In re Bell*, 991 F.2d 781, 783, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993). To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the reference (or references when combined) references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed invention and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP § 2142.

Claim 2 recites a data synchronization apparatus for maintaining synchronization between a source data file and a copy data file. The data synchronization apparatus comprises a bulk copy controller and an update controller. The bulk copy controller is capable of copying a plurality of data records from the source data file to the copy data file. The update controller is capable of detecting a change in a data record previously copied by the bulk copy controller from the source data file to the copy data file and copying the changed data record from the source data file to the copy data file. The update controller and the bulk copy controller operate substantially concurrently.

The Examiner acknowledges that *Bauer* does not state that the server and the client operate substantially concurrently; however, the Examiner asserts that *Bauer* teaches that “proper synchronization should be frequently verified” and references Col. 4, lines 40-45 of *Bauer*, for

support for this assertion. The Applicant respectfully disagrees with this assertion and finds that the referenced portion of *Bauer* is directed to the periodic (or non-concurrent) updating of server records based upon changed client records, and is more clearly understood with reference to Col. 4, lines 26-55 of *Bauer*:

The server thus uses the update log for two purposes. The server uses the update log to create a view of the client's old values for conflict detection and then a view of the client's current values for refreshing the client. Both views are deduced from the update log without the client providing explicit information to the server. The process is based on knowing what a client's values are at the last refresh time and recreating client update activity from update operations performed by that client since that time. Consequently, the server can perform conflict detection and can formulate the effective database operations needed to bring the client into synchronization with the server while minimizing the amount of information communicated to the server by the client.

Communication errors or errors at either client or server can result in tables that are not properly synchronized. For the greatest reliability, proper synchronization should be frequently verified. The verification must perform well even on clients with slow disks and CPUs. To facilitate this verification, the server calculates a checksum value for the client from the server's view of the client table. The server then sends that calculated server checksum to the client. For the data to be valid, a checksum performed on the refreshed client table by the client must match the calculated server checksum. Preferably, the client calculates the client checksum from a before-image of the client table. That before-image is stored immediately after the refresh and the calculation of the client checksum is performed during the client propagation processing, instead of immediately after the refresh. Thus the client risks the use of invalid data. That risk, however, is exchanged for more efficient processing.

The foregoing relied-upon portion of *Bauer* fails to teach or suggest that the update controller and the bulk copy controller of this Application operate substantially concurrently, and further, fails to provide any suggestion or motivation, either in *Bauer* alone or with the knowledge generally available to one of ordinary skill in the art, to modify *Bauer* to arrive at the current invention.

The only way one can arrive at the present invention is by looking backward from *Bauer* at the Applicant's invention, and, even then, one cannot make the *Bauer* server and clients perform bulk copies of data records from source data files to copy data files while an update controller substantially concurrently operates to detect changes in a data record previously copied and copying the changed data records from the source data file to the copy data file. It cannot be said that one of ordinary skill in the pertinent art would be presumed to know of the teachings of *Bauer* and could solve the same or a similar problem as that the Applicant addresses. *EWP Corp. v. Reliance Universal, Inc.*, 755 F.2d 898, 906-07, 225 U.S.P.Q. 20, 25 (Fed. Cir.), *cert. denied*, 474 U.S. 843 (1985); *In re Sernaker*, 702 F.2d 989, 995, 217 U.S.P.Q. 1, 6 (Fed. Cir. 1983). The requisite motivation does not stem from any of these teachings, from the perspective of one of ordinary skill in the art, to arrive at the Applicant's invention. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

Simply stated, Claim 2 is not *prima facie* obvious. As between Claim 2 and *Bauer*, Independent Claims 10 and 18 contain analogous limitations to those found in Independent Claim 2. Claims 10 and 18 are therefore also not *prima facie* obvious. Dependent Claims 3-8, 11-16 and 19-21 include the limitations of their respective base and intervening claims.

The Applicant respectfully submits that Claims 2-8, 10-16 and 18-21 are patentable over *Bauer*, as are new Dependent Claims 22-24.

SUMMARY

For the reasons given above, the Applicant respectfully requests reconsideration and allowance of pending claims and that this Application be passed to issue. If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at *wmunck@davismunck.com*.


The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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**APPENDIX**

1. Kindly cancel, *without prejudice*.
2. (Amended) [The] A data synchronization apparatus [set forth in Claim 1] for maintaining synchronization between a source data file and a copy data file comprising:  
a bulk copy controller capable of copying a plurality of data records from said source data file to said copy data file; and  
an update controller capable of detecting a change in a data record previously copied by said bulk copy controller from said source data file to said copy data file and copying said changed data record from said source data file to said copy data file, wherein said update controller and said bulk copy controller operate substantially concurrently.
3. (Amended) The data synchronization apparatus set forth in Claim [1] 2 wherein said source data file comprises at least one data table comprising a plurality of data records and a synchronization descriptor associated with said at least one data table.
4. (Unchanged) The data synchronization apparatus set forth in Claim 3 wherein said bulk copy controller sequentially copies said plurality of data records in said at least one data table in said source data file to said copy data file and sets said synchronization descriptor to an index value of a most recently copied one of said plurality of data records.
5. (Unchanged) The data synchronization apparatus set forth in Claim 4 wherein said update controller detects changes in said plurality of data records in said at least one data table in said source data file by monitoring selected ones of said plurality of data records in said at least one data table in said source data file having an index value less than said index value in said synchronization descriptor.
6. (Unchanged) The data synchronization apparatus set forth in Claim 5 wherein said update controller detects said changes in said plurality of data records in said at least one data table in said source data file by monitoring data write operations in said plurality of data records in said at least one data table in said source data file.
7. (Unchanged) The data synchronization apparatus set forth in Claim 6 wherein said update controller is capable of detecting that said copy data file is off line and has lost synchronization with said source data file.

8. (Unchanged) The data synchronization apparatus set forth in Claim 7 wherein said update controller is capable of determining that said copy data file is on line and is capable of activating said bulk copy controller by setting at least one synchronization descriptor in said source data file to a zero value.

9. Kindly cancel, *without prejudice*.

10. (Amended) [The] A telecommunications device [set forth in Claim 9] comprising:  
a primary processing system comprising a first memory capable of storing a source  
data file;  
a secondary processing system comprising a second memory capable of storing a copy  
data file; and  
a data synchronization apparatus coupled to said first and second memories for  
maintaining synchronization between said source data file and said copy data file, said data  
synchronization apparatus comprising:  
a bulk copy controller capable of copying a plurality of data records from said  
source data file to said copy data file; and  
an update controller capable of detecting a change in a data record previously  
copied by said bulk copy controller from said source data file to said copy data file and  
copying said changed data record from said source data file to said copy data file, wherein  
said update controller and said bulk copy controller operate substantially concurrently.

11. (Amended) The telecommunications device set forth in Claim [9] 10 wherein said source data file comprises at least one data table comprising a plurality of data records and a synchronization descriptor associated with said at least one data table.

12. (Unchanged) The telecommunications device set forth in Claim 11 wherein said bulk copy controller sequentially copies said plurality of data records in said at least one data table in said source data file to said copy data file and sets said synchronization descriptor to an index value of a most recently copied one of said plurality of data records.

13. (Unchanged) The telecommunications device set forth in Claim 12 wherein said update controller detects changes in said plurality of data records in said at least one data table in said source data file by monitoring selected ones of said plurality of data records in said at least one data table in said source data file having an index value less than said index value in said synchronization descriptor.



14. (Unchanged) The telecommunications device apparatus set forth in Claim 13 wherein said update controller detects said changes in said plurality of data records in said at least one data table in said source data file by monitoring data write operations in said plurality of data records in said at least one data table in said source data file.

15. (Unchanged) The telecommunications device set forth in Claim 14 wherein said update controller is capable of detecting that said copy data file is off line and has lost synchronization with said source data file.

16. (Unchanged) The telecommunications device set forth in Claim 15 wherein said update controller is capable of determining that said copy data file is on line and is capable of activating said bulk copy controller by setting at least one synchronization descriptor in said source data file to a zero value.

17. Kindly cancel, *without prejudice*.

18. (Amended) [The] A method [as set forth in Claim 17] of maintaining synchronization between a source data file and a copy data file comprising:  
sequentially copying a plurality of data records from the source data file to the copy data file; and  
detecting a change in a data record previously copied in the step of sequentially copying and copying the changed data record from the source data file to the copy data file, wherein the step of sequentially copying and the step of detecting a change are performed substantially concurrently.

19. (Amended) The method as set forth in Claim [17] 18 wherein the source data file comprises at least one data table comprising a plurality of data records and a synchronization descriptor associated with the at least one data table.

20. (Unchanged) The method as set forth in Claim 19 wherein the step of sequentially copying comprises the substeps of:  
sequentially copying the plurality of data records in the at least one data table in the source data file to the copy data file; and  
setting the synchronization descriptor to an index value of a most recently copied one of the plurality of data records.

21. (Unchanged) The method as set forth in Claim 20 wherein the step of detecting a change comprises the substep of monitoring selected ones of the plurality of data records in the at least one data table in the source data file having an index value less than the index value in the synchronization descriptor.

22. (New) The method as set forth in Claim 21 wherein the step of detecting said changes in said plurality of data records in said at least one data table in said source data file is by monitoring data write operations in said plurality of data records in said at least one data table in said source data file.

23. (New) The method as set forth in Claim 22 wherein the step of detecting said changes is capable of detecting that said copy data file is off line and has lost synchronization with said source data file.

24. (New) The method as set forth in Claim 23 further comprising the step of determining that said copy data file is on line and is capable of activating a bulk copy controller by setting at least one synchronization descriptor in said source data file to a zero value.